

<p align="center">9 PRODUCT GEL</p>	<p align="center">Page 1 of 3</p>
<p align="center">TRAINING PROGRAM FOR THE ANALYSIS OF FORENSIC CASEWORK USING PCR-BASED STR FLUORESCENCE IMAGING ANALYSIS AT THE POWERPLEX® 16 BIO LOCI</p>	<p align="center">Issue No. 2</p>
	<p>Effective Date: 1-August-2005</p>
<p>9 PRODUCT GEL</p> <p>9.1 GOALS:</p> <p>9.1.1 To develop an understanding and working knowledge of the use of the product gel, including limitations, interpretation of results, and proper documentation.</p> <p>9.1.2 To become familiar with the use of controls on the product gel.</p> <p>9.1.3 To become familiar with the photographic procedures used to document product gel results.</p> <p>9.2 TASKS:</p> <p>9.2.1 Prepare reagents and product gels necessary to evaluate the success of the amplification process. Refer to the <u>Commonwealth of Virginia Department of Forensic Science Forensic Biology Section Procedure Manual, Section III - Fluorescent Detection PCR-Based STR DNA Protocol: PowerPlex® 16 BIO System</u> for the procedure.</p> <p>9.2.2 Prepare and run product gels.</p> <p>9.2.3 Photograph the product gels.</p> <p>9.2.4 Interpret the results of the product gels and use this information to determine if the samples should be typed and the volume of sample to load on the typing gel.</p> <p>9.2.5 Read applicable literature and become familiar with glossary terms. Refer to Appendices A, B and C.</p> <p>9.2.6 Continue on to Chapter 10, VERTICAL TYPING GEL</p> <p>9.3 TRAINING EVALUATION:</p> <p>9.3.1 Knowledge</p> <p>9.3.1.1 Review of notes, photographs, and worksheets in training notebook by training coordinator.</p> <p>9.3.1.2 Mini-mock trials and/or question and answer sessions.</p> <p>9.3.2 Skills</p> <p>9.3.2.1 The trainee should demonstrate an unquestionably sound technique for running product gels and accurately interpreting and properly documenting the results. This will be monitored by review of the documentation in the training notebook and continual observation by the training coordinator.</p> <p>9.3.3 Completion of the trainee checklist by the training coordinator.</p>	

<p align="center">9 PRODUCT GEL</p>	<p align="center">Page 2 of 3</p>
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<p>STUDY QUESTIONS:</p> <ol style="list-style-type: none"> 1. What is the purpose of a product gel? 2. What control is used on the product gel and why? 3. How large are the regions of interest that the analyst is trying to detect for the PowerPlex® 16 BIO loci? 4. On the yield gel and/or AluQuant® Human Quantitation System, the analyst finds 10 ng/ul of DNA, but after amplification finds no DNA or primer-dimer on the product gel. What could be the reason? 	

9 PRODUCT GEL	Page 3 of 3
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CHECKLIST FOR PRODUCT GEL

Name of Trainee: _____

- Trainee has prepared reagents and gels necessary to verify the success of the amplification process.
Date:_____ Training Coordinator:_____

Comments:_____
- Trainee has successfully and accurately completed all appropriate paperwork associated with the product gel.
Date:_____ Training Coordinator:_____

Comments:_____
- Trainee has successfully run product gels for all samples amplified using the PowerPlex® 16 BIO System.
Date:_____ Training Coordinator:_____

Comments:_____
- Trainee has successfully photographed and interpreted the results for all product gels.
Date:_____ Training Coordinator:_____

Comments:_____
- Trainee has developed an understanding of the theory and limitations of the product gel, including the importance of controls.
Date:_____ Training Coordinator:_____

Comments:_____
- Notebook is organized and complete.
Date:_____ Training Coordinator:_____

Comments:_____
- Trainee has participated in mini-mock trials and/or question and answer sessions.
Date:_____ Training Coordinator:_____

Comments:_____

◆END